

**(10) International Publication Number**  
**WO 2006/021866 A1**

(57) **Abstract:** When an operation of a fuel cell system (100) is stopped, a flow of cathode off-gas into a circulation passage (28) is stopped. A stopped state of the flow of the cathode off-gas into the circulation passage (28) is held even after a start-up of the system (100) until the fuel cell (10) is brought into a predetermined state. Such structure prevents an outlet (52) of a three-way valve (50) from being frozen in an opened state. Accordingly the cathode off-gas that contains large amount of water and nitrogen hardly flows into the fuel cell (10) accidentally. This makes it possible to restrain various types of trouble, for example, generation of flooding upon start-up of the system, decrease in the oxygen partial pressure, and decrease in the power generation efficiency resulting therefrom.